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CENTRAL INTELLIGENCE AGENCY  
INFORMATION REPORT

50X1-HUM

COUNTRY USSR

SUBJECT Use of 'MR' Apparatus by Soviet Rifle Companies/  
Mechanical Equipment used by Soviet Engineering Troops/Use  
of Mechanical Foam as Fire Extinguisher

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2. "The rifle companies of the rifle regiments of the Soviet army are using 'MR'  
(mikrofon-ra vedchik = scouting microphone) apparatus. This apparatus consists  
of:

- a. a khaki-colored microphone box, size 20 x 10 cm;
- b. a khaki-colored connecting cable up to 500 m long;
- c. a receiver-amplifier.

3. "At night patrols or scouts place the microphone 200-500 m in front of them.  
The receiver-amplifier transmits every noise that occurs in a radius of 50 m.  
around the microphone. The MR is used mainly by patrols guarding important  
approaches by night.

4. "The engineering troops are provided with the following mechanical equipment  
for underground work:

- a. Pneumatic boring hammer 'MB-13'. By means of MB-13 one can  
bore holes with a diameter of 35-50 mm. and a depth of up to  
four meters. Depending on the soil and the type of the bore  
head, the productivity of work is from 0.7 m. to 4.5 m. per hour.  
This hammer weighs 16.2 kg. The useful pressure of the com-  
pressed air is four atmospheres. The boring is conducted dryly  
and the hole blown through.
- b. Electric hand drills 'ER-5'. The effects of their work are  
the same as those of MB-13, but they are used for soft soil.  
The tension of the feeding network is 127 volts. The drill  
has a motor with a capacity of 1.7 kvt and weighs 17.7 kg.

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- c. Pneumatic hand picks 'OM-5'. By means of OM-5 one can cut out about half a cubic meter of hard soil in one hour. The length of the pick without the point is 560 mm. The useful pressure is four atmospheres and the pick makes 700-1000 strokes per minute.
- d. Pneumatic hand spades PI-3. By means of PI-3 one can dig out about one cubic meter of medium-hard soil per hour. The useful pressure is 4 atmospheres.

All of these pneumatic tools are provided with 'silencers': casings made of leather and cotton wool.

- 4. "For geological investigations and for making of ventilation and smoke holes for underground constructions, the engineering troops have an earth drill 'B-140' which bores holes of a diameter of 140 mm and a depth of up to 10 meters. The weight of the B-140 is 60 kg and is operated by four men. The productivity is two to four meters per hour, depending on the nature of the soil. The drill is worked by hand.
- 5. "For the liquidation of fires of objects belonging to the Air Force and at depots containing easily inflammable goods and substances, the Soviets no longer use so-called 'foam-generators' (penogony i penogeneratory) but 'autocistern pumps' (avtoisisterny-masyny) provided with 'air-foam tubes' (vo dushno-penaye stovy) for the production of mechanical foam.
- 6. "The principle for the production of mechanical foam is as follows:
  - a. a foam producer is introduced into the water cistern in the proportion of 95-96 per cent of water and 4-5 per cent of foam producer;
  - b. when the water to which the foam producer has been added passes through the 'air-foam tube', the mixture is there mixed with air and coming out from the tube, forms a broad jet of foam which is thrown as far as 20 meters.
- 7. "The cheapest foam producer to be added to water is a mixture of kerosene, raw spirits and joiner's glue. Added to 100 liters of water, this foam producer yields 1000 liters of foam from the air-foam tube. This foam is more stable than chemical foam and covers the burning surface very closely.
- 8. "There are air-foam tubes of the following types:
  - VPSM-3 - throws out three cubic meters of foam per minute; length 860 mm, diameter 60 mm.
  - VPSM-5 - throws out five cubic meters of foam per minute; length 1236 mm, diameter 65 mm.

The tubes have diffusers inside. The air-foam tubes are attached to the ends of the hoses instead of the ordinary spraying tubes."

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